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LOWELL REGIONAL WASTEWATER UTILITY

WASTEWATER COLLECTION AND TREATMENT



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SUBJECT: Priority CSO Projects - Integrated Capital Plan for Lowell Massachusetts

DATE: March 24, 2021

Gentlemen:

Thank you for your correspondence dated March 18, 2021, which extends Lowell's deadline to respond to comments on our proposed Integrated Capital Plan (ICP). As you know, the City of Lowell (Lowell) submitted its ICP to your agencies in December 2019. Subsequently, in January 2021, Lowell received your comments on our ICP, which details a plan to reduce CSOs from Lowell's combined sewer system by 72% over the next fifteen years.

As outlined in the March correspondence, Lowell will respond to your January 2021 comments by **June 18, 2021**. In May, the Lowell team will arrange a progress meeting with you and your colleagues in order to provide an update on the development of our responses. In the meantime, I am including a brief overview of several priority projects in Lowell's ICP, particularly a description of two critical CSO projects: the Pevey Wet-Weather Storage Facility and the Douglas Wet-Weather Storage Facility.

The Pevey and Douglas storage projects are intended to address decades-long, recurring sewer surcharge conditions in these two neighborhoods. In June 2019, the persistent threat to public health and the ongoing potential for property damage provided the impetus for Lowell's City Council to authorize \$67M in local funding for sewer system improvements.

This funding will pay for many of the improvements that are described in Lowell's ICP, including the Pevey and Douglas projects, as well as the North Bank Wet Weather Treatment Facility that is the cornerstone of Lowell's current CSO long-term control plan (LTCP). In addition, the funding will pay for planned improvements to the Duck Island facility and the satellite stations that convey sewage to Duck Island.

Here is a brief summary of the "priority projects" that Lowell has identified for implementation in the first four years of "Phase 3" of Lowell's CSO LTCP, from 2021 through 2025:

- **Lowell Boys & Girls Club Sewer Re-Alignment** – This project is the first phase of a two-part upgrade that will ultimately eliminate sewer surcharging at the Lowell Boys & Girls Club (LBGC). The LBGC project replaces approximately 400 feet of an existing 36-inch sewer line that runs under the LBGC Building. This is the "ground zero" location where surcharging occurs in a sewer trunk line that runs through the Marginal-Pevey-Middlesex corridor.

The new sewer line would eliminate a vulnerable segment of the existing sewer trunk line. As importantly, the re-alignment project would raise the rim elevations of the sewer manholes that currently surcharge by as much as ten feet. Raising these sewer manhole rims will alleviate sewer surcharging at this location and substantially reduce the needed storage volume – and the project cost – for the Pevey storage facility. Because of the impact on the design and construction of the Pevey facility, Lowell is proposing to immediately install the new sewer line near the LBGC. The LBGC Sewer Re-Alignment project would be completed by December 2022.

- **Douglas Wet-Weather Storage Facility** – This storage project would address long-standing sewer surcharge conditions in the Winward Road and Douglas Road neighborhood. Lowell proposes to install modular storage tanks that would relieve sewer surcharging in this area by allowing the combined sewer line in Douglas Road to overflow by gravity into the new storage facility. The Douglas Road sewer line is approximately ten feet deep, creating a zone between the pipe crown and the manhole rims where a series of storage tanks could eliminate overflows from the local sewer manholes. The storage tanks would be designed to accept overflows from the Douglas Road combined sewer line, and slowly empty back into the Douglas Road sewer line once the wet-weather conditions subside. Modular storage tanks would be installed beneath the Cawley Stadium parking lot that is adjacent to Douglas Road. The Douglas Wet-Weather Storage Facility project would commence in summer 2021 and be completed by December 2024.
- **Pevey Wet-Weather Storage Facility** – This storage project is proposed as the second part of a two-phase upgrade. The second phase will construct a storage facility at 91 Pevey Street, after the benefits of the first phase (the LBGC Sewer Re-Alignment project) are realized. Once the sewer rim elevations are raised in the vicinity of the Lowell Boys & Girls Club, the new conditions will be modeled to determine the estimated storage volume of the Pevey Storage Facility. Actual level measurements in the modified sewer trunk line will also be used to verify the storage facility sizing. Once constructed, this facility will eliminate sewer surcharging in the Marginal-Pevey-Middlesex sewer trunk line, especially at the Lowell Boys & Girl Club. The Pevey Wet-Weather Storage Facility would commence in early 2023 and be completed by December 2025.

In addition to the above CSO projects, Lowell intends to design and construct improvements to its Duck Island Wastewater Treatment Facility that focus on a redundant sludge dewatering (centrifuge) upgrade and a Phosphorous removal project, as required by our recent NPDES wastewater permit. These plant upgrades would be completed in late 2024.

Lastly, Lowell is proposing to construct improvements to its sewer satellite stations. Specifically, upgrades to pumping systems at three of our largest sewage pump stations: Pawtucket, Princeton, and Chelmsford pump stations. These upgrades are scheduled to begin in 2022 and be completed in late 2024.

In 2024, once all of the priority CSO projects and the critical “nuts and bolts” projects described above are underway, Lowell intends to begin design of the North Bank Wet-Weather Treatment Facility. With this facility projected to reduce Lowell’s CSO discharges by 50% of our current levels, this is the cornerstone project of Lowell’s LTCP Phase 3 program.

If you have any questions, or need additional information, please do not hesitate to call me at 978-674-1675.

Sincerely,



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